

# Weather

## Coasters Harbor Navy Yacht Club

[www.nwc.navy.mil/chnyc](http://www.nwc.navy.mil/chnyc)



# Weather Affects

- Precipitation
- Wind
  - Direction
  - Velocity
- Waves
  - Swells
- Temperature
  - Air
  - Water
- Humidity
  - Visibility
  - Fog



# Resources

- Newspaper
- TV
- Radio
  - Wx radio
- INTERNET
- Local posting
  - Warnings
  - Watches

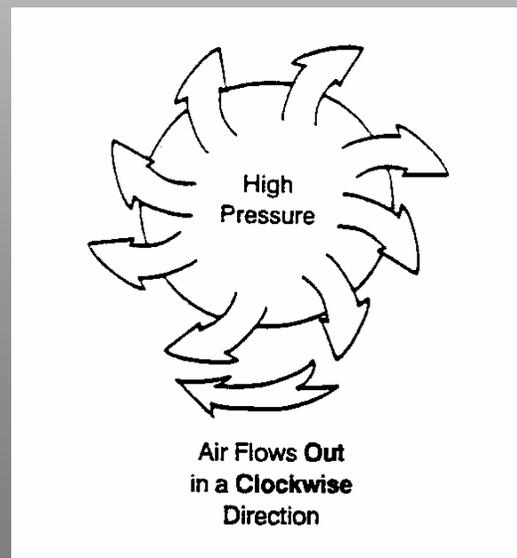
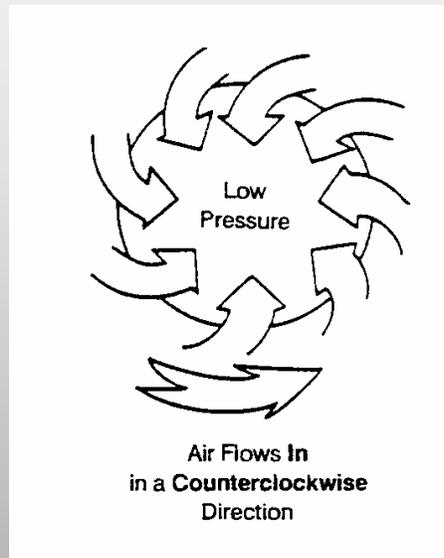


# Weather Systems

- **Low**
  - **Relatively**  
warm air
  - **Less dense**  
air rises
- **Lower**  
pressure,  
falling  
barometer
- **Wind, rain,**  
storms
- **High**
  - **Relatively**  
cool air
  - **Sinks to**  
surface
- **Rising**  
barometer
- **Clear**  
weather,  
good sailing

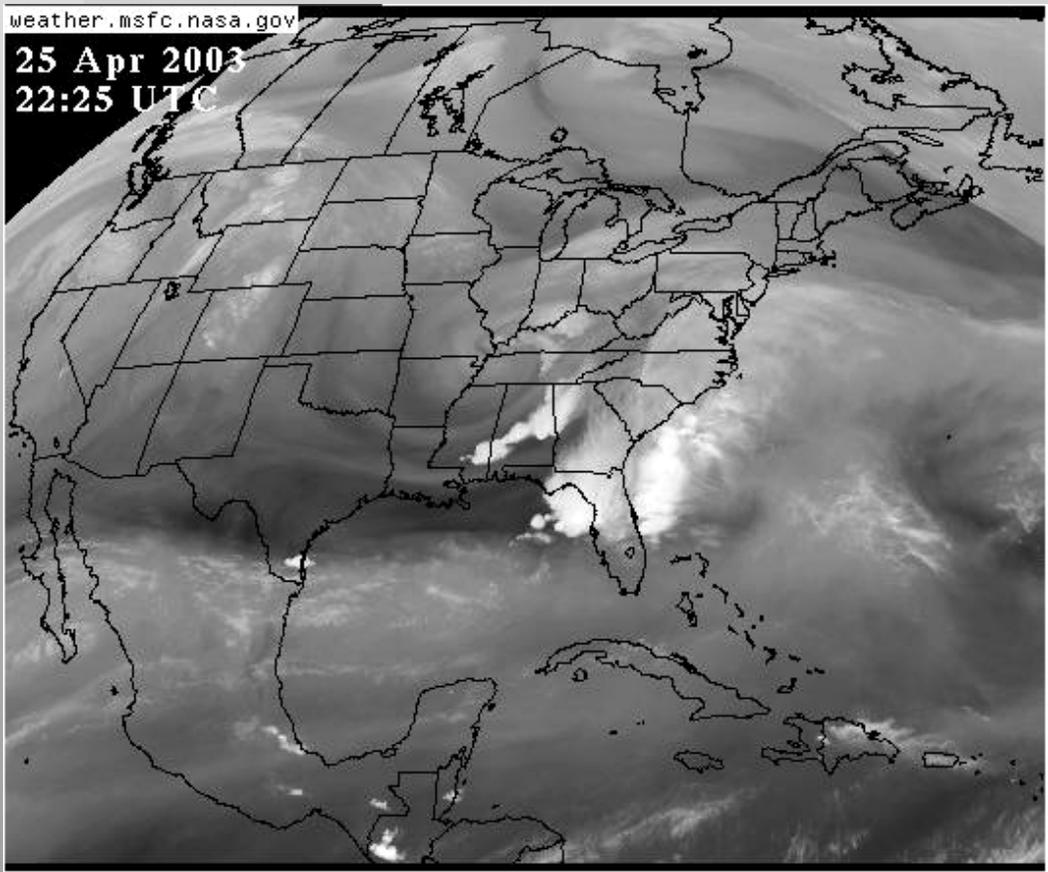
# Rotating Air Masses

- **Northern Hemisphere**
  - Around low counterclockwise
    - Cyclonic
  - Around high clockwise
- **Rising and sinking of air in relation to earth rotation**



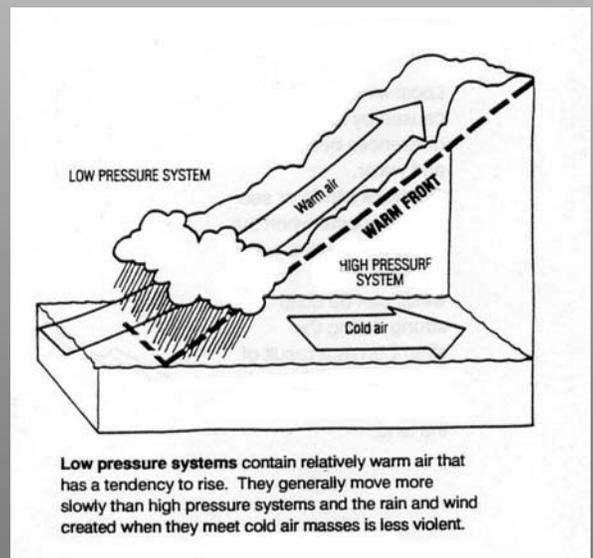
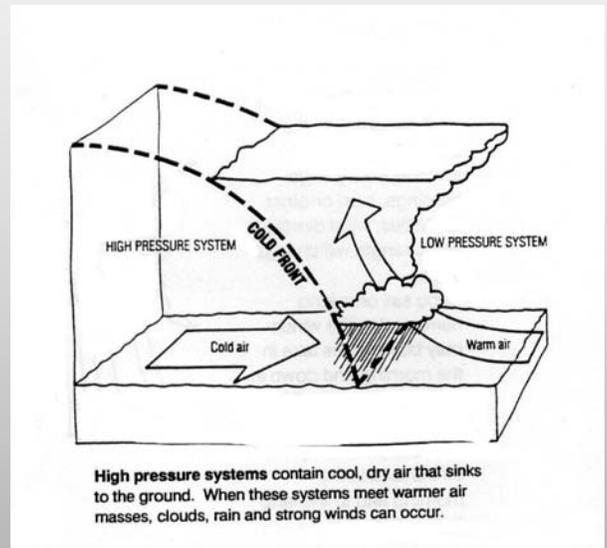
# Satellite Photos

- **Show clouds rotating in the same direction as the wind in the air mass.**



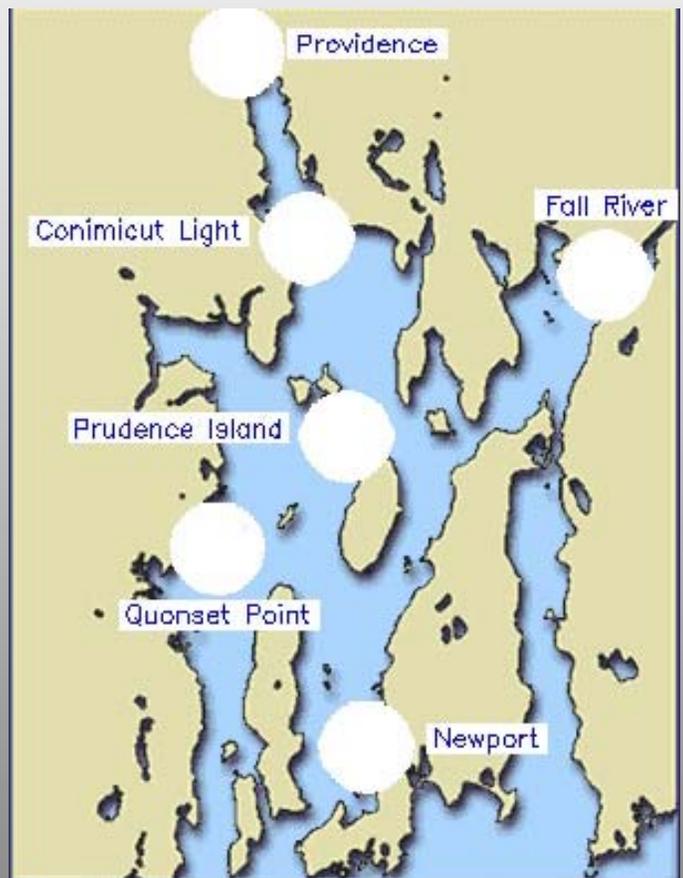
# Fronts

- Cold and warm air masses meet
- The border is called a front
  - Cold:
    - Drop in temperature
    - Clockwise shift
    - Heavy rain
  - Warm:
    - Warmer air replaces colder
    - Less violent



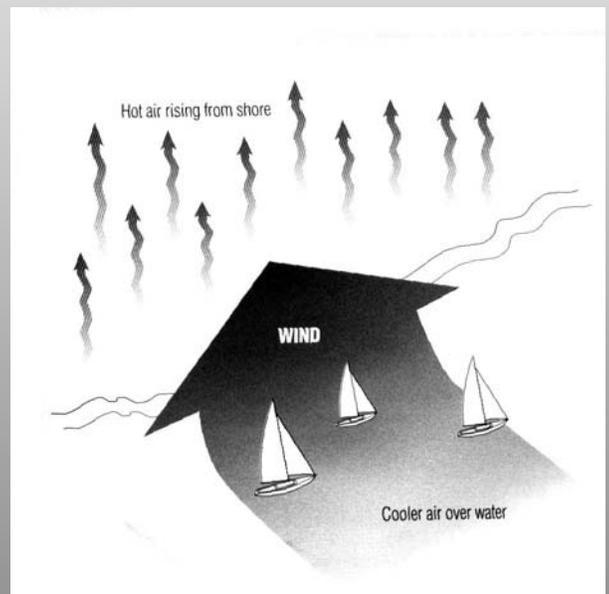
# Geographic Affects

- **When water is surrounded by land, hills or obstacles, wind will change often**
  - Direction
  - Velocity
- **Wind will be diverted around islands**
  - Windward shore
  - Leeward shore



# Thermal Affects

- **Temperature differences between land and water**
- **Onshore winds blow from the water onto the land**
  - **Sea breezes**
- **Cooler air is being pulled in by hotter air rising over the land**
- **Narragansett Bay every summer afternoon**
  - **1300**
  - **210 degrees**



# Squalls

- **Dangerous winds and lightning**
  - Increased cloud cover
  - Darkening skies
  - Change in wind direction
  - Increasing or decreasing velocity
  - Approaching wall of heavy rain
- **Don PFD**
- **Head back to marina**

# Fog

- **Reduced visibility**
  - Return when visibility decreases to less than 1 mile
- **Frequent in spring and fall**
  - Temperature difference air and water
- **Remember fog signals**



# Weather Summary

- Check the forecast before you sail
- Weather is responsible for about 20% of boating incidents and accidents in RI every year
- Conditions change
- Know your limits